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NEWS 24 MAR 03 REGISTRY/ZREGISTRY - Sequence annotations enhanced
NEWS 25 MAR 03 MEDLINE file segment of TOXCENTER reloaded

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AND CURRENT DISCOVER FILE IS DATED 10 JANUARY 2005

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 15:51:04 ON 16 MAR 2005

=> file caplus

COST IN U.S. DOLLARS

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TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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1.05

FILE 'CAPLUS' ENTERED AT 15:54:09 ON 16 MAR 2005

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FILE COVERS 1907 - 16 Mar 2005 VOL 142 ISS 12

FILE LAST UPDATED: 15 Mar 2005 (20050315/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> ruthenium(w)(sulfide or sulphide)

RUTHENIUM(W) (SULFIDE IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> ruthenium(w)(sulfide or sulphide)

RUTHENIUM(W) (SULFIDE IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> s ruthenium(w)(sulfide or sulphide)

82974 RUTHENIUM

302511 SULFIDE

1642 SULPHIDE

L1 282 RUTHENIUM(W) (SULFIDE OR SULPHIDE)

=> s l1 and (nickel or ni or rhenium or re or chromium or cr or molybdenum or mo or iridium or ir)

571176 NICKEL

582636 NI

32891 RHENIUM

129730 RE

340625 CHROMIUM

381946 CR

213818 MOLYBDENUM

461393 MO

36376 IRIDIUM

562566 IR

L2 136 L1 AND (NICKEL OR NI OR RHENIUM OR RE OR CHROMIUM OR CR OR MOLYB

DENUM OR MO OR IRIIDIUM OR IR)

=> s l2 and (carbon(p)(support or carrier or substrate))

1107838 CARBON

409809 SUPPORT

248470 CARRIER

791965 SUBSTRATE

43328 CARBON(P)(SUPPORT OR CARRIER OR SUBSTRATE)

L3 4 L2 AND (CARBON(P)(SUPPORT OR CARRIER OR SUBSTRATE))

=> d l3 1-4 ti, ab, bib

L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

TI Hydrogenation of dialkyl disulfides on supported sulfide catalysts

AB Di-Me and di-Et disulfide hydrogenation was carried out under atm. pressure in the presence of various sulfide catalysts. The corresponding alkanethiol was formed as the main product at 200.degree. irres. of the catalyst structure. The course of the reaction was the same for both disulfides but di-Et disulfide demonstrated higher hydrogenation rate on all the catalysts. Higher activity of metal sulfide catalysts was obsd. on aluminum oxide **support** as compared to **carbon-** and silica-supported sulfides. The highest activity among metal sulfides on alumina **support** was obsd. for rhodium, the lowest for tungsten. Reaction rate grows with rising temp., with the initial H2 concn. growth up to 15 vol.-% and with the initial di-Me disulfide concn. up to 2%.

AN 2004:290610 CAPLUS

DN 141:175799

TI Hydrogenation of dialkyl disulfides on supported sulfide catalysts

AU Mashkina, A. V.; Khairulina, L. N.

CS Inst. Kataliza im. G. K. Boreskova, SO RAN, Novosibirsk, Russia

SO Neftekhimiya (2004), 44(1), 57-62

CODEN: NEFTAH; ISSN: 0028-2421

PB Nauka

DT Journal

LA Russian

L3 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

TI Fuel cell electrode comprising CO and sulfur tolerant metal compound hydrogen activation catalyst

AB The present invention relates to a novel hydrogen activation catalysts based on a metal compd. More particularly, this invention describes a catalyst that is poison tolerant and has a high resistance to poisoning by carbon monoxide or sulfur contg. species that can be used in fuel cells including a proton exchange membrane fuel cell.

AN 2004:220634 CAPLUS

DN 140:238522

TI Fuel cell electrode comprising CO and sulfur tolerant metal compound hydrogen activation catalyst

IN Chianelli, Russell R.; Jacobson, Alan

PA Board of Regents, the University of Texas System, USA; University of Houston System

SO PCT Int. Appl., 24 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|---|----------|-----------------|----------|
| PI | WO 2004023581 | A2 | 20040318 | WO 2003-US27874 | 20030905 |
| | W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, | | | |

TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2004086772 A1 20040506 US 2003-654860 20030904

PRAI US 2002-408779P P 20020906
US 2003-654860 A1 20030904

L3 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

TI Selective hydrogenation of diethyl disulfide to ethanethiol in the
presence of sulfide catalysts

AB The gas-phase reaction of di-Et disulfide hydrogenation at atm. pressure
in the presence of supported transition metal sulfides was studied. The
reaction of di-Et disulfide with hydrogen at T = 200.degree.C resulted in
ethanethiol, and the selectivity to ethanethiol was no lower than 94%.
The selectivity decreased at a higher temp. because of di-Et disulfide
decompn. to ethylene and hydrogen sulfide. The reaction of di-Et
disulfide in the presence of hydrogen occurred at a higher rate and
selectivity than that in an atm. of helium. The activity of metal
sulfides supported on aluminum oxide was higher than on the other studied
supports-aluminosilicate, silica gel, and a **carbon**
support. Metal sulfides supported on Al₂O₃ were arranged in the
following order according to their activity: Rh > Ru > Mo
.gtoreq. Pd > Ni > W. Bimetallic catalysts were less active
than monometallic catalysts. The activity of catalysts increased with the
sulfide sulfur content; the partial redn. of metal sulfides also increased
the catalytic activity.

AN 2002:405218 CAPLUS

DN 137:232372

TI Selective hydrogenation of diethyl disulfide to ethanethiol in the
presence of sulfide catalysts

AU Mashkina, A. V.; Khairulina, L. N.

CS Boreskov Institute of Catalysis, Siberian Division, Russian Academy of
Sciences, Novosibirsk, 630090, Russia

SO Kinetics and Catalysis (Translation of Kinetika i Kataliz) (2002), 43(2),
261-267

CODEN: KICAA8; ISSN: 0023-1584

PB MAIK Nauka/Interperiodica Publishing

DT Journal

LA English

OS CASREACT 137:232372

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

TI Mechanism of carbon-nitrogen bond scission on unsupported transition metal
sulfides

AB The reactivity of a series of amines with various structures and different
nos. of hydrogen atoms on the **carbon** atoms in the .alpha. and
.beta. position, with respect to the nitrogen atom, was examd. on four
transition metal sulfides, i.e. NbS₃, MoS₂, RuS₂, and Rh₂S₃. It is shown
that the reaction mechanism proceeds via an elimination or a nucleophilic
substitution the relative importance of which depends on the structure of
the **substrate** to be transformed and on the transition metal
sulfides properties. NbS₃ is the most active sulfide of the series for
the elimination reaction due to its high acidity, but it is inactive for
the nucleophilic substitution. On the other hand, the surface species of
Rh₂S₃ can be involved in a nucleophilic substitution but not in an
elimination reaction. The other sulfides of the series behave in between.
These results clearly demonstrate that the catalysts intervene differently
in the HDN mechanism. Moreover, for a given solid the structure of a
nitrogen-contg. mol. strongly affects the elementary steps of its
transformation. Accordingly, a precise mechanistic study of the

reactivity of a model mol. at the surface of a sulfide cannot be generalized to the overall HDN process which involves several types of mols.

AN 1998:85200 CAPLUS
DN 128:130017
TI Mechanism of carbon-nitrogen bond scission on unsupported transition metal sulfides
AU Cattenot, Martine; Portefaix, Jean-Louis; Afonso, Julio; Breysse, Michele; Lacroix, Michel; Perot, Guy
CS Institut de Recherches sur la Catalyse, CNRS, 2, Villeurbanne, 69626, Fr.
SO Journal of Catalysis (1998), 173(2), 366-373
CODEN: JCTLAS; ISSN: 0021-9517
PB Academic Press
DT Journal
LA English
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file reg

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
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| FULL ESTIMATED COST | 45.43 | 46.48 |
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| CA SUBSCRIBER PRICE | -2.92 | -2.92 |

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STRUCTURE FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4
DICTIONARY FILE UPDATES: 15 MAR 2005 HIGHEST RN 845699-17-4

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=> ru/co/s

RU IS NOT A RECOGNIZED COMMAND

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=> s (Ru)/(Co)/S
MISSING OPERATOR

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|----------------------|------------------|---------------|
| FULL ESTIMATED COST | 0.43 | 46.91 |

| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
|--|------------------|---------------|
| CA SUBSCRIBER PRICE | 0.00 | -2.92 |

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FILE COVERS 1907 - 16 Mar 2005 VOL 142 ISS 12
 FILE LAST UPDATED: 15 Mar 2005 (20050315/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d hist

(FILE 'HOME' ENTERED AT 15:51:04 ON 16 MAR 2005)

FILE 'CAPLUS' ENTERED AT 15:54:09 ON 16 MAR 2005

L1 282 S RUTHENIUM(W) (SULFIDE OR SULPHIDE)
 L2 136 S L1 AND (NICKEL OR NI OR RHENIUM OR RE OR CHROMIUM OR CR OR MO
 L3 4 S L2 AND (CARBON(P) (SUPPORT OR CARRIER OR SUBSTRATE))

FILE 'REGISTRY' ENTERED AT 15:57:31 ON 16 MAR 2005

FILE 'CAPLUS' ENTERED AT 15:58:15 ON 16 MAR 2005

=> s l2 and carbon

1107838 CARBON

L4 26 L2 AND CARBON

=> s l4 and (h2s or (hydrogen(2)(sulfide or sulphide)))

MISSING OPERATOR 'HYDROGEN(2'

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s l4 and (h2s or (hydrogen(w)(sulfide or sulphide)))

83240 H2S

860417 HYDROGEN

302511 SULFIDE

1642 SULPHIDE

49432 HYDROGEN(W) (SULFIDE OR SULPHIDE)

L5 6 L4 AND (H2S OR (HYDROGEN(W) (SULFIDE OR SULPHIDE)))

=> d l5 1-6 ti, ab, bib

L5 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

TI Hydrogenation of dialkyl disulfides on supported sulfide catalysts

AB Di-Me and di-Et disulfide hydrogenation was carried out under atm. pressure in the presence of various sulfide catalysts. The corresponding

alkanethiol was formed as the main product at 200.degree. irresp. of the catalyst structure. The course of the reaction was the same for both disulfides but di-Et disulfide demonstrated higher hydrogenation rate on all the catalysts. Higher activity of metal sulfide catalysts was obsd. on aluminum oxide support as compared to **carbon**- and silica-supported sulfides. The highest activity among metal sulfides on alumina support was obsd. for rhodium, the lowest for tungsten. Reaction rate grows with rising temp., with the initial H₂ concn. growth up to 15 vol.-% and with the initial di-Me disulfide concn. up to 2%.

AN 2004:290610 CAPLUS

DN 141:175799

TI Hydrogenation of dialkyl disulfides on supported sulfide catalysts

AU Mashkina, A. V.; Khairulina, L. N.

CS Inst. Kataliza im. G. K. Boreskova, SO RAN, Novosibirsk, Russia

SO Neftekhimiya (2004), 44(1), 57-62

CODEN: NEFTAH; ISSN: 0028-2421

PB Nauka

DT Journal

LA Russian

L5 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

TI Selective hydrogenation of diethyl disulfide to ethanethiol in the presence of sulfide catalysts

AB The gas-phase reaction of di-Et disulfide hydrogenation at atm. pressure in the presence of supported transition metal sulfides was studied. The reaction of di-Et disulfide with hydrogen at T = 200.degree.C resulted in ethanethiol, and the selectivity to ethanethiol was no lower than 94%. The selectivity decreased at a higher temp. because of di-Et disulfide decompn. to ethylene and **hydrogen sulfide**. The reaction of di-Et disulfide in the presence of hydrogen occurred at a higher rate and selectivity than that in an atm. of helium. The activity of metal sulfides supported on aluminum oxide was higher than on the other studied supports-aluminosilicate, silica gel, and a **carbon** support. Metal sulfides supported on Al₂O₃ were arranged in the following order according to their activity: Rh > Ru > **Mo** .gtoreq. Pd > **Ni** > W. Bimetallic catalysts were less active than monometallic catalysts. The activity of catalysts increased with the sulfide sulfur content; the partial redn. of metal sulfides also increased the catalytic activity.

AN 2002:405218 CAPLUS

DN 137:232372

TI Selective hydrogenation of diethyl disulfide to ethanethiol in the presence of sulfide catalysts

AU Mashkina, A. V.; Khairulina, L. N.

CS Boreskov Institute of Catalysis, Siberian Division, Russian Academy of Sciences, Novosibirsk, 630090, Russia

SO Kinetics and Catalysis (Translation of Kinetika i Kataliz) (2002), 43(2), 261-267

CODEN: KICAA8; ISSN: 0023-1584

PB MAIK Nauka/Interperiodica Publishing

DT Journal

LA English

OS CASREACT 137:232372

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

TI Hydrodesulfurization of dibenzothiophene catalyzed by supported metal carbonyl complexes

AB Hydrodesulfurization (HDS) of dibenzothiophene (DBT) catalyzed by supported anionic **molybdenum** and ruthenium carbonyl complexes is described, specifically the catalytic activity and the product selectivity. A **Mo**(CO)₆-NEt₃-EtSH/Al₂O₃ system activated by H₂ or H₂S shows the highest catalytic activity among catalysts

derived from supported-metal carbonyls and conventional molybdena-alumina. Investigation of the effects of supports found the yields of HDS products decreased in the order, $\text{SiO}_2\text{-Al}_2\text{O}_3 > \text{Al}_2\text{O}_3 > \text{TiO}_2 = \text{active carbon} > \text{SiO}_2 > \text{NaY zeolite} = \text{HZSM-5} > \text{HY zeolite}$. The effects of addn. of alkali metal hydroxide on the catalytic activity and product selectivity of sulfided alumina-supported ruthenium carbonyls in HDS of DBT were described. Addn. of an alkali metal hydroxide to catalysts derived from alumina-supported $\text{Ru}_3(\text{CO})_{12}$ remarkably increased the conversion of DBT. The $\text{Ru}_3(\text{CO})_{12}$ must be supported on alumina so that the reaction with the alkali metal hydroxide will form an anionic ruthenium hydride complex $[\text{HRu}_3(\text{CO})_{11}]^-$, which is essential to obtain the high catalytic activity. Cesium was the most effective of the alkali metals. The conversion of DBT reaches the max. at $\text{Cs/Ru} = 2$. Further addn. of cesium decreased the activity. Biphenyl was produced selectively in this system. The involvement of cesium was elucidated by tracing the behavior of ^{35}S on the alumina-supported ruthenium carbonyls-cesium hydroxide systems in HDS of $[\text{35S}]\text{DBT}$. The amt. of labile sulfur was estd. from the amt. of ^{35}S accommodated on the catalyst. The rate const. of $[\text{35S}]\text{H}_2\text{S}$ release was estd. from the first order plot of the decreasing radioactivity of product $[\text{35S}]\text{H}_2\text{S}$. The dispersion of ruthenium species was significantly high. Cesium probably promotes the C-S bond scission of DBT and increases the activity by stabilizing the Ru-S bonds of **ruthenium sulfide**.

AN 2001:158034 CAPLUS

DN 134:239901

TI Hydrodesulfurization of dibenzothiophene catalyzed by supported metal carbonyl complexes

AU Ishihara, Atsushi; Qian, Weihua; Kabe, Toshiaki

CS Dept. of Chemical Engineering, Faculty of Technology, Tokyo University of Agriculture and Technology, Koganei, Tokyo, 184-8588, Japan

SO Sekiyu Gakkaishi (2001), 44(2), 80-91

CODEN: SKGSAE; ISSN: 0582-4664

PB Sekiyu Gakkai

DT Journal

LA English

RE.CNT 105 THERE ARE 105 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN

TI Hydrogenation properties of **ruthenium sulfide** clusters in acidic zeolites

AB Catalysts of **ruthenium sulfide**, dispersed in a series of Y zeolites with various acidic properties, were prepd. by ion exchange and subsequent sulfidation. The activities for the reactions of hydrogenation of Tetralin and toluene, carried out in the presence of H_2S (1.9%), vary widely according to the nature of the zeolites. **Ruthenium sulfide** catalysts are much more active when using acidic zeolite, HY and HYd (dealuminated), and a partially potassium-exchanged KHYd sample, than when using the KY support. The acidic properties of the sulfided RuY catalysts were detd. in situ using IR spectroscopy and the conversion of isooctane. Both methods gave similar rankings of catalyst acidity. The electronic properties of the **ruthenium sulfide** phase were examd. by means of the IR study of the adsorption of CO. A low-frequency shift of 15 cm^{-1} was obsd. for CO adsorbed on RuKY by ref. to CO adsorbed on all other samples. The increase in activity for the hydrogenation of aroms. is related to the electron-deficient character of the sulfide particles in the acidic zeolites as has been proposed, in the literature, for metal catalysts. A superimposed of the acidic sites on the adsorption of the arom. mol. may also occur which could explain the amplitude of the effect (difference of activity between the most and less active catalysts .apprx.200 times) and the variations of activity obsd. within the series of the acidic catalysts.

AN 1997:370115 CAPLUS

DN 127:20594
TI Hydrogenation properties of **ruthenium sulfide** clusters
in acidic zeolites
AU Breysse, Michele; Cattenot, Martine; Kougionas, Vassilios; Lavalley, Jean
Claude; Mauge, Francoise; Portefaix, Jean Louis; Zotin, Jose Luiz
CS Institut Recherches Catalyse, Villeurbanne, 69626, Fr.
SO Journal of Catalysis (1997), 168(2), 143-153
CODEN: JCTLA5; ISSN: 0021-9517
PB Academic
DT Journal
LA English
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
TI Second row transition metal sulfides for the hydrotreatment of
coal-derived naphtha. II. Removal of individual sulfur compounds
AB The disappearance of individual sulfur compds. was investigated during the
hydrotreatment of coal-derived naphtha over bulk second-row transition
metal sulfides. The sulfur compds. in the naphtha mainly consisted of
thiols, sulfides, thiophene, and substituted thiophenes. Thiols and
sulfides are, in general, more easily converted than thiophenic compds.
are. Lighter thiols and sulfides are intermediates in the conversion of
higher boiling thiols and sulfides or thiophenes. Side-chain alkyl C-C
bond breaking was predominant during the disappearance of thiophenes over
Zr and Nb catalysts, whereas C-S bond breaking is predominant over the
other catalysts. Thiophenic compds. are hydrogenated prior to
desulfurization over the **Mo**, Ru, Rh, and Pd sulfides. Highly
substituted thiophenes are the compds. most difficult to convert over
Mo, Ru, Rh, and Pd sulfides. The substituted thiophenes exhibited
different reactivity trends over **Mo** sulfide, on one hand, and
the Group VIII sulfides, on the other, indicating different adsorption
modes and surface mechanisms. Individual sulfur compds. did not follow
first-order kinetics, and the disappearance rate is limited by product
inhibition (e.g., by **H₂S**, **NH₃**, and **H₂O**). The overall removal of
sulfur does not follow simple first- or second-order kinetics since the
individual compds. do not react in parallel, independently, or in
first-order reactions.

AN 1997:75799 CAPLUS
DN 126:188198
TI Second row transition metal sulfides for the hydrotreatment of
coal-derived naphtha. II. Removal of individual sulfur compounds
AU Raje, Ajoy P.; Liaw, Shuh-Jeng; Davis, Burtron H.
CS Center For Applied Energy Research, University of Kentucky, Lexington, KY,
40511, USA
SO Applied Catalysis, A: General (1997), 150(2), 319-342
CODEN: ACAGE4; ISSN: 0926-860X
PB Elsevier
DT Journal
LA English

L5 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2005 ACS on STN
TI Data on theoretical metallurgy. VII The thermodynamic properties of sulfur
and its inorganic compounds
AB cf. C. A. 31, 2081.1. The thermodyn. properties of S, **SO₂**, **SO₃**, **SO**,
H₂S, **SO₂Cl₂**, **Sb₂S₃**, **BaS**, **Bi₂S₃**, **CdS**, **CaS**, **CS₂**, **COS**, **CoS**, **Cu₂S**,
CuS, **FeS**, **FeS₂**, **PbS** **MnS**, **HgS**, **MoS₂**, **MoS₃**, **NiS**, **NH₄HS**, **PtS**, **PtS₂**, **RuS₂**,
Ag₂S, **SrS**, **Tl₂S**, **SnS**, **WS₂**, **ZnS**, **Al₂(SO₄)₃**, **BaSO₄**, **BeSO₄**, **CdSO₄**, **CaSO₄**,
CoSO₄, **CuSO₄**, **FeSO₄**, **Fe₂(SO₄)₃**, **PbSO₄**, basic Pb sulfates, **Li₂SO₄**, **MgSO₄**,
MnSO₄, **Hg₂SO₄**, **NiSO₄**, **K₂SO₄**, **Ag₂SO₄**, **Na₂SO₄**, **NaHSO₄**, **Na₂S₂O₇**, **SrSO₄**,
Tl₂SO₄, **Th(SO₄)₂**, **TiSO₄**, **VOSO₄**, **ZnSO₄** and **Zr(SO₄)₂** are presented and
critically discussed. A self-consistent system of thermodyn. relations for
these substances is given. By use of these data it is shown (1) how
approx. thermodyn. properties of a mixed sulfide can be obtained from the

properties of its constituents, (2) that Al_2Cl_3 can be made from $\text{Al}_2(\text{SO}_4)_3$ and NaCl , (3) or from $\text{Al}_2(\text{SO}_4)_3$ and CaCl_2 , (4) that the action of Mn in desulfurizing steel depends largely on reaction taking place during cooling, (5) that the interaction of sulfides and oxides of Fe permit recovery of much of the S in low-grade Cu mat as elemental S without the use of reducing fuel and (6) under certain conditions (detailed), use of Fe in reducing ZnS in complex Zn-Pb sulfide ores appears feasible. A bibliog. of 177 refs. is given.

AN 1938:10960 CAPLUS
DN 32:10960
OREF 32:1559c-f
TI Data on theoretical metallurgy. VII The thermodynamic properties of sulfur and its inorganic compounds
AU Kelley, K. K.
SO Bulletin - United States, Bureau of Mines (1937), No. 406, 154 pp.
CODEN: XBMBAJ; ISSN: 0082-9129
DT Journal
LA Unavailable

=> d hist

(FILE 'HOME' ENTERED AT 15:51:04 ON 16 MAR 2005)

FILE 'CAPLUS' ENTERED AT 15:54:09 ON 16 MAR 2005

L1 282 S RUTHENIUM(W) (SULFIDE OR SULPHIDE)
L2 136 S L1 AND (NICKEL OR NI OR RHENIUM OR RE OR CHROMIUM OR CR OR MO
L3 4 S L2 AND (CARBON(P) (SUPPORT OR CARRIER OR SUBSTRATE))

FILE 'REGISTRY' ENTERED AT 15:57:31 ON 16 MAR 2005

FILE 'CAPLUS' ENTERED AT 15:58:15 ON 16 MAR 2005

L4 26 S L2 AND CARBON
L5 6 S L4 AND (H₂S OR (HYDROGEN(W) (SULFIDE OR SULPHIDE)))

=>